

In the Claims

Please cancel claims 1 and 3 to 5 without prejudice.

Please amend the claims as follows:

6. (Fifth Amendment) A method for forming within a silicon semiconductor substrate employed within an integrated circuit microelectronics fabrication a silicon oxide dielectric field oxide (FOX) isolation layer comprising:

providing a silicon semiconductor substrate;

forming upon the silicon semiconductor substrate a silicon oxide pad oxide layer;

forming upon the silicon oxide pad oxide layer a patterned silicon nitride mask layer;

oxidizing the silicon semiconductor substrate locally at a first temperature of at least above 1100 degrees centigrade, through the patterned silicon nitride mask layer to

form silicon oxide dielectric field oxide (FOX) isolation layers which prevent out-diffusion of nitrogen species from the silicon nitride mask layer; and

then oxidizing the silicon semiconductor substrate further at a second temperature no greater than 1100 degrees centigrade as desired to form greater thickness of silicon oxide layers.

10. (Amended) The method of claim 11, wherein the dry oxidizing environment comprises:

oxygen gas;

12 nitrogen gas; and

average room temperature humidity.

Please add claims 11 to 14 as follows:

13
12
11. A method for forming a silicon oxide dielectric field oxide (FOX) isolation layer comprising:

providing a silicon structure;

forming upon the silicon structure a pad oxide layer;

5 forming upon the pad oxide layer a patterned silicon nitride mask layer;

oxidizing the silicon structure locally at a first temperature of at least above about 1100°C, through the patterned silicon nitride mask layer to form silicon oxide dielectric field oxide (FOX) isolation layers which prevent out-diffusion of nitrogen species from the silicon nitride mask layer; and

10 then oxidizing the silicon structure further at a second temperature no greater than about 1100°C to form greater thickness of silicon oxide layers.

12. The method of claim 11, wherein the pad oxide layer is formed employing thermal oxidation of the silicon structure in an oxidizing environment.

13. The method of claim 11, wherein the silicon structure is a single crystalline silicon wafer of (100) crystal orientation.

14. The method of claim 11, wherein the dry oxidizing environment comprises: